



Australia's National
Science Agency

Head of Software and Scientific Computing, Australia Telescope National Facility (ATNF), CSIRO

Information for applicants

Acknowledgement of Country

In the spirit of reconciliation, CSIRO acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today. View our [vision towards reconciliation](#)

Child Safety

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](#).

About CSIRO

We are Australia's national science agency, solving the greatest challenges through innovative science and technology.

CSIRO is one of the world's largest and most multidisciplinary mission-driven research organisations, creating a better future for Australia.

We are:

- a statutory corporation within the Australian Government's Industry, Science and Resources (DISR) portfolio.
- established and operate under the *Science and Industry Research Act 1949 (Cth)* (SIR Act).
- a corporate Commonwealth entity for the purposes of the *Public Governance, Performance and Accountability Act 2013 (Cth)* (PGPA Act).
- align with the DISR portfolio Budget Statement outcome statement, and give effect to our Ministerial Statement of Expectations, to deliver value to Australia.

In 2022, we were named the most trusted government service in Roy Morgan's Trusted Brand Awards. We are also a highly connected innovator, working with universities, governments, Australian businesses of all sizes across all major industries and communities around the country.

With more than 6,000 staff, we contribute to Australia's national prosperity as well as creating environmental and social benefit.

To find out more about our purpose, vision, values and the challenges we are solving, visit www.csiro.au.



About the Australia Telescope National Facility

CSIRO operates several radio astronomy observatories and data archives that are collectively known as the Australia Telescope National Facility (ATNF). Our technology development program is the cornerstone of the ATNF and is an internationally recognised source of innovative radio astronomy instrumentation, which leads to societal impact.

The ATNF includes:

- the ASKAP radio telescope with its wide field-of-view in a legislated radio quiet zone,
- the Australia Telescope Compact Array with its wide frequency coverage, quick response times and flexible configurations,
- Murriyang, our Parkes radio telescope, which is the only large single-dish radio telescope dedicated to science observations in the southern hemisphere,
- the Long Baseline Array (LBA) providing VLBI baselines across Australia,
- the Mopra antenna, which is used for single-dish observations, particularly at millimetre wavelengths and as part of the ATNF during LBA sessions,
- astronomical data archives that currently provide 10PB of data, as well as various catalogues, databases and software packages used for obtaining and processing data from our facilities, and
- a comprehensive range of expertise, spanning from the intricacies of front-end receivers to deploying machine learning algorithms for analysing the vast data volumes contained within our archives.

For two semesters each year, the ATNF accepts Principal Investigator-driven proposals from the national and international community. ASKAP also carries out long-term science programs driven by large science teams.

The ATNF has been involved with the international SKA project from its inception, has contributed to its design, and is delivering the beam-forming instrumentation and local infrastructure for the SKA-Low telescope in Australia. In Australia, CSIRO is partnering with the SKA Observatory to build and operate the SKA-Low telescope. The ATNF's locations, telescopes and engineering expertise are in an excellent position to support and extend the science goals of the SKA telescopes over the next decade.

The ATNF forms part of the Space & Astronomy research unit, and together we aim to enable humanity to understand our Earth and Universe. This understanding, and our innovative science and technology, contributes to solving the greatest challenges, building future industry, and serving customers from across Australia and the world.



Role Summary

Tenure	Specified term of five years, with the possibility of an underlying indefinite research appointment. Full-time or Part-time (4 days minimum FTE equivalent)
Salary Range	Attractive salary package negotiable for the right candidate + 15.4% superannuation.
Location	Consideration given to Sydney (Marsfield) or Perth (Kensington)
Travel	A willingness and ability to travel interstate and, as required, internationally.
Relocation Assistance	Will be provided to the successful candidate if required.
Applications are open to	All Candidates who meet the requirements of the role. VISA sponsorship will be provided as required.
Position reports to the	ATNF Program Director
Direct reports	5

Role Overview

Reporting to the ATNF Program Director, the Head of Software and Scientific Computing will lead a portfolio of software and computing projects, lead the team, coordinate the deployment of staff to projects in consultation with the ATNF leadership team and engage with the global astronomical community around CSIRO's capability in scientific software and computing.

Duties and Key Result Areas

Staff leadership

- Attract, develop and support staff from a diverse range of backgrounds and foster a creative culture that supports excellence in research.
- Coordinate the deployment of staff to projects in consultation with the ATNF leadership team.
- Champion diversity in its broadest sense and develop initiatives to grow and support diversity across CSIRO as a driver for excellence and impact.
- Actively promote an inclusive, safe and environmentally sustainable workplace.
- Model appropriate and professional behaviour in the workplace and manage people matters proactively.

Operational leadership

- Oversee the portfolio of software and computing projects and management of budget and infrastructure around it.
- Manage and/or monitor the long-term impact on software and computing projects including prioritisation and allocation of appropriate resources.
- Collaborate with ATNF leadership team to ensure alignment and progress on key operational matters and support resource allocation and build people capability.
- Ensure the coordination of S&A software and computing infrastructure and networks and proactively engage with key stakeholders.

Engagement & partnerships

- Build deep and trusted relationships with relevant internal and external stakeholders.
- Lead ATNF engagement with the Australian SKA Regional Centre and lead the engagement with global astronomy community.
- Build cohesion and collaboration broadly with the Pawsey Supercomputing Centre in relation to ASKAP and with the internal IM&T (Information, Management and Technology) team around computing infrastructure and with other relevant external stakeholders.
- Develop innovative ways to ensure awareness of and build trust in CSIRO's science and achievements globally.
- Anticipate and effectively respond to major emerging issues and critical incidents.
- Represent CSIRO in engagements with relevant stakeholders.

Required Competencies for CSIRO Leaders

- **Teamwork and collaboration:** Creates and fosters an environment in which there is a high level of cooperation within and between teams. Facilitates positive team relationships to build interactions across Research Units and the organisation.

- **Influence and communication:** Uses complex influencing strategies, for example, assembling strategic coalitions, building behind the scenes support and the tactical use of information to gain support.
- **Resource management/leadership:** Provides leadership that fosters an environment that encourages new ideas and provides support for the development of emerging skills. Creates trust by displaying consistency, understanding, integrity and patience. Plans, seeks, allocates and monitors resources to achieve outcomes.
- **Judgement and problem solving:** Resolves major conceptual scientific, technical, commercial or management problems, which have a significant impact upon the field of research, professional function, the Business Unit or the Organisation. Situations faced have little or no precedent and require original concepts and approaches.
- **Independence:** Commits significant resources in the face of uncertainty and takes calculated risks to improve performance and achieve challenging goals. Uses personal energy to drive change strategies. Formulates and implements contingency plans to minimise the impact of potential risks. Accepts personal responsibility for the outcomes of decisions/risks taken.
- **Adaptability:** Is flexible in response to external change or when faced with external constraints. Identifies and promotes the opportunities arising as a result of change.



Selection Criteria

Essential pre-requisites

- Tertiary qualifications in a relevant discipline or an equivalent combination of qualifications and experience.
- Demonstrated experience in large scale software engineering practices.
- Experience in leading a high-performance culture in a research environment/organisation, including the integration of Health, Safety & Environment and Diversity, Equity & Inclusion into normal business processes.
- A demonstrated record of adherence to professional ethics and conduct, including professional and respectful workplace behaviour.
- A willingness and ability to travel interstate and, as required, internationally, noting that CSIRO works hard to accommodate personal arrangements.

Desirable pre-requisites

- Research leadership experience in radio astronomy.
- Expertise in radio astronomy software and/or scientific computing systems.
- Experience with machine learning applied to astronomy.

Special and essential requirements

The successful candidate will be required to undertake a **National Police Clearance** or equivalent. There may also be other potential background checks required.

Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test: <https://ielts.com.au/>)

Flexible working arrangements

We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you. *Work life balance.*

Diversity and inclusion

At CSIRO, diversity, equity, and inclusion are at the core of who we are. They are fundamental to our mission and to our impact. We understand that diverse perspectives drive innovation and helps us to better understand the complex challenges we seek to solve at CSIRO.

Inclusion underpins how we treat our team at CSIRO. Therefore, we're continuing to build a safe and welcoming culture where people can bring their whole selves to work, and ensure that

everyone at CSIRO feel supported to do their best work and feel empowered to let their ideas flourish. Our success rests on our ability to acknowledge and understand intersectionality, recognising the diverse experiences, identities, relationships and social factors that shape each individual. By fostering a thriving culture that embraces differences, we believe in, and respect, the power of diverse perspectives and learn from the uniqueness of our people.

We are committed to the safety and wellbeing of all children and young people.

Eligibility

Applications for this position are open to all candidates. Visa sponsorship may be provided to the successful candidate if required.



To apply

As part of the application process, we ask that candidates provide the following:

- Curriculum Vitae – outlining relevant aligning career experience and key achievements.
- Cover Letter or Executive Summary – outlining the motivation for applying and a high-level summary response to the selection criteria described in the position description. This document should not be longer than 1,000 words.

CSIRO is a values-based organisation. At interview you will need to demonstrate behaviours aligned to our values of:

People First

Trusted

Further Together

Making it Real

Please note that Applications close 11:59pm Australian Eastern Standard Time, Wednesday 18th September 2024.

Questions

For any questions not answered in this document, please feel free to contact:

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As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.
Unlocking a better future for everyone.

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